

REMARKS

Claims 1-38 are pending in the present application. Claims 21-25 have been withdrawn from consideration by the Examiner pursuant to a restriction requirement. Claims 1, 10, 12, 26, 27, 29, 32, 33, and 37 are hereby amended. Figure 1 and Figure 2 are hereby amended to include a legend indicating they represent prior art. Claims 28, 30, and 34 are hereby cancelled. Claims 39-44 are hereby added, solely to advance prosecution by obtaining allowance at the earliest possible date of claims covering selected embodiments. No admission is to be inferred by the present amendment of claims, the present cancellation of claims, or the present addition of claims. Applicants reserve the right to pursue the originally filed claims, or other similar claims, in the future. No new matter will be incorporated into the present application by entry of this Amendment.

Applicants would like to thank Examiner Glessner for extending their counsel the courtesy of an interview on 25 February 2004 to discuss the present application. The present Amendment is being filed together with a recordation of the substance of the interview, in accordance with MPEP 713.04.

In the Office Action mailed August 27, 2003, the Examiner made the outstanding restriction requirement final; required a proposed drawing correction or corrected drawings; rejected claims 27-30, 32, and 33-36 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; rejected claims 1, 2, 6, 7, and 10 under 35 U.S.C. 102(b) as being anticipated by Cathers (4,587,769); rejected claims 37 and 38 under 35 U.S.C. 102(b) as being anticipated by Thiel (5,873,203); rejected claims 3-5 and 11 under 35 U.S.C. 103(a) as being unpatentable over Cathers in view of Thiel; rejected claims 8 and 9 under 35 U.S.C. 103(a) as

being unpatentable over Cathers; rejected claims 12-17 under 35 U.S.C. 103(a) as being unpatentable over Thiel in view of Cathers; rejected claims 18-20 under 35 U.S.C. 103(a) as being unpatentable over Thiel in view of Cathers and further in view of Bobel (2,723,427); rejected claims 26-32 under 35 U.S.C. 103(a) as being unpatentable over Gifford et al. (2,781,561) in view of Thiel; and rejected claims 33-36 under 35 U.S.C. 103(a) as being unpatentable over Bobel in view of Thiel. Applicants respectfully disagree with each of the rejections, with the Examiner's characterization of the invention, and with the Examiner's characterization of the cited art. Applicants request reconsideration of all the rejections.

The Examiner has required a proposed drawing correction or corrected drawings. In particular, the Examiner has suggested designating Figures 1 and 2 with a "Prior Art" legend. Figures 1 and 2 have been changed to include such a legend. Copies of the new figures are enclosed.

The Examiner has rejected claims 27-30, 32, and 33-66 under 35 U.S.C. §112, second paragraph, as being indefinite. Regarding claims 27, 29, and 33-36, the Examiner has stated that the scope of the claims is indefinite because the applicant has not defined any material that makes up the active coating or any material that makes up the glazing compound. Regarding claim 32, the Examiner has stated that there is insufficient antecedent basis for the limitation "the substrate" in line 1.

With respect to claim 27, Applicants have amended this claim to specify that the active coating comprises titanium oxide and that the glazing compound comprises organic material.

With respect to claim 28, Applicants have canceled this claim.

With respect to claim 29, Applicants have amended this claim to specify that the active coating comprises titanium oxide and that the barrier layer is formed of inorganic material.

With respect to claim 30, Applicants have canceled this claim.

With respect to claim 32, Applicants have amended this claim to recite “a substrate”, thus providing proper antecedent basis for this claim.

With respect to claims 33-36, Applicants have amended independent claim 33 (on which dependent claims 34-36 are based) to specify that the active coating is a photocatalytic coating comprising titanium oxide, and that the durable glazing compound comprises a silicon compound, a phosphate, a fluorinated polymer, or a silicone-based polymer. Further, Applicants have canceled claim 34.

Applicants note that the amendments to those claims that have been rejected by the Examiner for indefiniteness are being made solely in the interest of advancing prosecution and obtaining allowance at the earliest possible date of claims drawn to selected embodiments. Applicants consider that the original claims are definite and define patentably over the cited art.

The Examiner rejected claims 1, 2, 6, 7, and 10 under 35 U.S.C. §102(b) as being anticipated by Cathers. The Examiner also rejected claims 3-5 and 11 under 35 U.S.C. §103(a) as being unpatentable over Cathers in view of Thiel. Further, the Examiner rejected claims 8 and 9 under 35 U.S.C. §103(a) as being unpatentable over Cathers. The Examiner also rejected claims 12-17 under 35 U.S.C. §103(a) as being unpatentable over Thiel in view of Cathers. Still further, the Examiner rejected claims 18-20 under 35 U.S.C. §103(a) as being unpatentable over Thiel in view of Cathers and further in view of Bobel.

Independent claim 1 has been amended to clarify that both major surfaces of the pane have peripheral regions that are substantially free of functional coating. Applicants note that this amendment is not made for reasons of patentability. Rather, it is provided solely to clarify the features of the original claim.

Independent claim 10 has been amended to specify that the pane includes first and second major surfaces, one of the major surfaces bearing an active coating and having a peripheral region that is substantially free of the active coating, the other major surface bearing a low-emissivity coating and having a peripheral region that is substantially free of the low-emissivity coating. Independent claim 12 has been amended to specify that the multiple-pane insulating glass unit includes two spaced apart panes wherein at least one of the panes has a coated inner surface bearing a low-emissivity coating, the coated inner surface having a peripheral region that is substantially free of the low-emissivity coating. These amendments are being made solely in the interest of advancing prosecution and obtaining allowance at the earliest possible date of claims drawn to selected embodiments. Applicants consider that the original claims here define patentably over the cited art.

Thus, claims 1-20 require either a single pane that is coated on both sides and has on each side a peripheral region that is substantially coating free, or an IG unit having an exterior coating on an outer surface having a peripheral region that is substantially coating free. None of the applied art teaches or suggests any structure of this nature.

Applicants submit that the Cathers reference discloses grinding away parallel coating-free paths on the same major surface of a substrate. Cathers does not disclose grinding away coatings from opposed major surfaces of a substrate. Cathers is concerned with fabricating glass sheets into multiple-pane units. This involves sealing a spacer between the glass sheets. The context in which Cathers discusses its grinding wheel reflects the conventional manner of removing a chemically-sensitive silver-based coating (for an inner surface of a multiple-pane unit) from the periphery of a single pane surface. It is conventional to remove such a coating from the periphery of an inner pane surface before a spacer is sealed to this surface. It is this context of

fabricating glass sheets into multiple-pane units to which Cathers relates. Cathers is not concerned with mounting assembled multiple-pane units into window frames on buildings. Thus, Cathers simply fails to disclose or suggest a pane having opposed major surfaces that both are coated and both are substantially free of coating at peripheral regions.

The Thiel reference also fails to disclose or suggest a pane having opposed major surfaces that both are coated and both are substantially free of coating at peripheral regions. Thiel discloses a multiple-pane unit wherein both the inner and outer surfaces of the panes are coated, for example, with photocatalytic coatings. The interior coatings shown in Thiel are edge deleted. The exterior coatings in Thiel, however, are not edge deleted, but rather extend entirely to the edge of the pane. Thus, no matter how Cathers and Thiel may be combined, the resulting structure would not be a single pane that is coated on both sides and has on each side a peripheral region that is substantially free of coating. Nor would the resulting structure be an IG unit with an exterior coating on an outer surface having a peripheral region that is substantially free of coating. The Bobel and Gifford references fail to add any further teaching or suggestion that would render obvious claims 1-20. Therefore, these claims are believed to be patentably distinct from any combination of the applied art.

The applied art fails to identify problems associated with mounting a pane or IG unit having an exterior coating in the frame of a building without edge deleting the exterior coating. Thus, the applied art does not provide the required motivation to modify. Cathers reflects the conventional motivation to remove the periphery of an interior silver-based coating, based upon the well-known chemical sensitivity of silver-based coatings and their tendency to degrade, potentially ruining the hermetic seal that is desired between the spacer and panes of an IG unit. It is critical to assure this seal is highly resistant to gas and moisture permeation. For example, it

is important to prevent moisture from building up inside an IG unit, as such moisture tends to result in condensation forming inside the unit. Further, IG units are commonly filled with insulative gas, and it is important to assure the spacer/pane seal prevents gas from escaping and entering the between-pane space. Thus, the well-known motivation to edge delete interior silver-based coatings is particularly acute.

The cited art fails to provide a reason or motivation for edge deleting an exterior coating. In particular, this art fails to appreciate problems associated with not edge deleting an exterior coating, and likewise fails to appreciate the benefits providing an edge-deleted exterior coating.

Removing substantially all of the coating from a peripheral region of a pane or IG unit solves a number of problems associated with mounting the pane or IG unit into a frame on a building. Reference is made to Applicants' specification (from the second full paragraph of page 3 through the first paragraph of page 5). Further, it has been discovered that glazing compound between a window frame and a coated pane surface can sweat residue that ends up on the surface of the pane. While this residue is initially adjacent the glazing compound, the inventors have found that such residue can actually creep inwardly over the surface of the pane (e.g., away from the glazing compound and into the vision area). This residue can create an objectionable picture frame effect. This creeping phenomenon is exacerbated when the exterior coating is photocatalytic or otherwise hydrophilic, whereas by removing substantially all of the coating from a peripheral region of the coated outer surface, the uncoated surface provides resistance to the creep phenomenon, tending to keep the objectionable residue closer to the glazing compound from which it came. Thus, Applicants have identified a number of problems associated with not edge deleting exterior coatings, and a number of advantages that can be achieved by providing

edge deleted exterior coatings. Since the cited art fails to identify any such problems or advantages, this art fails to provide the required motivation to modify.

Not only does the cited art fail to provide the required motivation to modify, Applicants submit that the nature of the cited art teaches against providing either a single pane that is coated on both sides and has on each side a peripheral region that is substantially free of coating, or an IG unit with an exterior coating on an outer surface having a peripheral region that is substantially free of coating. For example, skilled artisans would consider it undesirable to use a top-side grinding wheel of the nature disclosed in Cathers to perform the conventional removal of silver-based coating from the periphery of a pane surface and to then turn the pane over and use the grinding wheel to remove the periphery of a coating on the opposite surface of the pane. Skilled artisans would consider that conveying the silver-based coating downwardly, when running the pane through the grinder, would damage the sensitive coating. As a result, skilled artisans would tend to be dissuaded from removing coating from both sides of a pane in this context. Thus, Applicants consider that conventional wisdom and available equipment in the art, as reflected by Cathers, teaches against removing a peripheral area of an exterior coating.

The Examiner also rejected claims 37 and 38 under 35 U.S.C. §102(b) as being anticipated by Thiel. Applicants respectfully disagree with the Examiner's characterization of the claimed elements, and with the characterization of the elements shown in Thiel. Thiel shows a multiple-pane unit. As noted above, Thiel is not concerned with mounting such a unit in the wall of a building, much less using a frameless-glazing structure of the nature claimed. Applicants, however, have amended independent claim 37 to focus on a preferred embodiment that clearly defines over Thiel. In particular, Applicants have drawn amended claim 37 to an IG unit having a coated outer surface that is secured to the mounts of a frameless glazing assembly.

Applicants submit that this not only overcomes the outstanding novelty-based rejection, but also defines an embodiment that is non-obvious over any of the cited art.

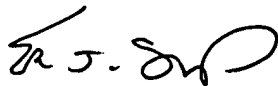
The Examiner also rejected claims 26-32 under 35 U.S.C. §103(a) as being unpatentable over Gifford et al. (2,781,561) in view of Thiel. Independent claim 26 requires a barrier layer between the coated surface of the pane and the glazing compound. The claimed barrier layer shields the glazing compound from direct contact with the active coating. The Examiner characterizes the adhesive area 29 of Gifford as being the claimed glazing compound, while element 24 of Gifford is characterized as being the claimed barrier layer. Gifford, however, indicates that element 24 is the upper face of the disclosed glazing strip 20. Thus, Applicants respectfully disagree with the characterizations of the claimed elements and the elements shown in Gifford and Thiel. Applicants, however, have amended independent claim 26 to focus on a preferred embodiment that clearly defines over these two references. In particular, Applicants have drawn amended claim 26 to specify that the barrier layer is positioned outside the inner edge of the frame so that the barrier layer is entirely outside the vision area of the glazing assembly. This clearly is not taught by Gifford. Rather, applying the Examiner's characterization of element 24 as being the claimed barrier layer, Applicants note that Gifford teaches expressly against any arrangement where element 24 is entirely outside the vision area of the glazing. For example, Gifford teaches that its spongy rubber-like strip 20 is to be placed substantially flush with the top of the frame's inner stop 32, such that the upper face 24 of the strip 20 bulges upwardly to provide a water shed in the completed assembly (Gifford, col. 3, lines 19-22). Thus, Applicants submit that Gifford teaches against any combination or modification, regardless of the teachings of other art, that would involve positioning the strip 20

entirely outside the vision area of the glazing assembly. Thus, Applicants consider that the present embodiment is non-obvious over Gifford in view of any other art.

The Examiner also rejected claims 33-36 under 35 U.S.C. §103(a) as being unpatentable over Bobel in view of Thiel. Applicants respectfully disagree with the Examiner's characterization of the claimed elements, and with the characterization of the elements shown in Bobel and Thiel. Applicants, however, have amended independent claim 33 to focus on a preferred embodiment. In particular, Applicants have drawn amended claim 33 to specify that the active coating is a photocatalytic coating comprising titanium oxide, and that the glazing compound comprises a silicon compound, a phosphate, a fluorinated polymer, or a silicone-based polymer. Applicants consider that none of the cited art provides any motivation for providing a glazing assembly having an exterior photocatalytic coating against which a glazing compound of the claimed nature is directly applied. Thus, Applicants submit that this embodiment is non-obvious over Bobel in view of Thiel or any of the other cited art.

In view of the foregoing, it is submitted that claims 1-20 and 26-44 of application are in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested. The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution. The Commissioner is authorized and requested to charge to Deposit Account No. 061910 any underpayments, overpayments, or additionally required fees.

Respectfully submitted,



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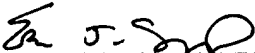
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